Amended claims

1. Thermoplastic composition comprising a thermoplastic elastomer mixture containing at least a styrenic elastomer, a polyol fin resin, and possibly additives(s) and/or filler(s), in which the thermoplastic elastomer mixture comprises :
   - a not cross-linked thermoplastic SIS elastomer contains less than 20% by weight bound styrene, advantageously less than 18% by weight bound styrene, preferably from 10 to 16% by weight bound styrene, and
   - a thermoplastic elastomer which is at least partially cross-linked,

   the weight ratio not cross-linked thermoplastic SIS elastomer/thermoplastic elastomer at least partially cross-linked being comprised between 1 :10 and 5 :1, preferably between 1 :6 and 2.5 :1.

2. The composition of claim 1, characterized in that the not crosslinked SIS elastomer has a molecular weight comprised between 150,000 and 275,000, advantageously between 200,000 and 240,000.

3 ~~2~~. The composition of claim 1 ~~or 2~~, characterized in that the at least partially cross-linked thermoplastic elastomer is a thermoplastic elastomer at least partially cross-linked in presence of a polyolefin resin.

4 ~~3~~. The composition of claim 1 or ~~2~~ 3, characterized in that the weight ratio not cross-linked thermoplastic SIS elastomer / thermoplastic elastomer at least partially cross-linked + polyolefin is comprised between 1:5 and 1:1.

5 ~~4~~. The composition of claim 1, characterized in that the polyolefin resin is selected in the group consisting of polyethylene, polypropylene, and mixture of polyethylene and polypropylene.

6 ~~5~~. The composition of claim 1, characterized in that the polyolefin resin and the at least partially cross-linked thermoplastic elastomer forms a premixture containing not cross-linked thermoplastic elastomer and partially cross-linked thermoplastic elastomer.

7 ~~6~~. The composition of claim 1, characterized in that the at least partially cross-linked thermoplastic elastomer has a cross-linking rate of more than 20%, preferably comprised between 25% and 75 %.

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8~~7~~. The composition of claim 1, characterized in that it comprises as thermoplastic elastomer and polyolefin resin, a mixture of polyolefin resin and SIS elastomer, the said mixture containing at least 40% by weight SIS elastomer, whereby the said mixture contains at least 20% by weight at least partially cross-linked SIS elastomer.

9~~8~~. The composition of claim 1, characterized in that it comprises a not cross-linked thermoplastic SIS elastomer and a thermoplastic elastomer which has been partly cross-linked in presence of a polyolefin, the weight ratio not cross-linked thermoplastic SIS elastomer / thermoplastic elastomer which has been partly cross-linked in presence of a polyolefin being comprised between 1:6 and 1:1, advantageously 1:4 and 7:10, preferably between 1:3 and 1:2.

10~~9~~. The composition of claim 1, characterized in that it comprises a polyolefin resin, a partially cross-linked thermoplastic elastomer and a not cross-linked thermoplastic SIS elastomer, the weight content of partially cross-linked elastomer with respect to the weight of polyolefin resin, partially cross-linked thermoplastic elastomer and not cross-linked thermoplastic SIS elastomer being comprised between 20 and 40%, while the weight content of not cross-linked thermoplastic SIS elastomer with respect to the weight of polyolefin resin, partially cross-linked thermoplastic elastomer and not cross-linked thermoplastic SIS elastomer being comprised between 15 and 50%.

11~~10~~. The composition of claim 1, characterized in that it comprises at least 20% by weight of a not cross-linked thermoplastic elastomer different from the not cross-linked thermoplastic SIS elastomer.

12~~11~~. The composition of claim 11, characterized in that the weight ratio not cross-linked thermoplastic elastomer different from the thermoplastic SIS elastomer / not cross-linked SIS thermoplastic elastomer is lower than 1:2, preferably lower than 1:10.

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13 12. The composition of claim 1, characterized in that the polyolefin resin and the thermoplastic elastomer(s) is a substantially homogenous mixture of a substantially homogenous premixture of a polyolefin and a partly cross-linked thermoplastic elastomer, with a not cross-linked thermoplastic SIS elastomer.

14 13. The composition of claim 1, characterized in that a silane is used for the partial cross-linking of the thermoplastic elastomer.

15 14. The composition of claim 1, characterized in that it comprises an amount of not cross-linked elastomer sufficient for ensuring a thermal stability at 121°C of at least 100 minutes and/or a γ irradiation stability of at least 20 KGray.

16 15. The composition of claim 1, characterized in that it comprises at least a dye or a pigment.

17 16. The composition of claim 1, characterized in that it comprises less than 0.5% by weight halide salt.

18 17. The composition of claim 16, characterized in that it comprises less than 0.3% by weight, preferably less than 0.2% by weight, most preferably less than 0.1% by weight halide salt.

19 18. Sealing means for a container or vial, at least a part of the said sealing means being made of a composition according to one of the preceding claims.

20 19. The sealing means according to claim 18, for sealing a pharmaceutical container or vial defining an inner volume, the said sealing means comprising a body, at least a part of which being made of a composition according to one of the claims 1 to 17, the said body being associated to a layer contacting a surface of the vial or container when the sealing means closes the said container or vial.

21 20. The sealing means according to claim 19, characterized in that the polyolefin resin of the composition in accordance to one of the claims 1 to 17 is selected from the group consisting of polyethylene, polypropylene, copolymer of ethylene-propylene and mixture thereof, while the said layer is at least partly made of a polyolefin resin selected from the group consisting of polyethylene, polypropylene, copolymer of ethylene-propylene and mixture thereof.

22 21. Film, cloth, protecting cloth comprising at least a layer made of a composition in accordance to one of the claims 1 to 17.

23 22. The film, cloth or protecting cloth of claim 21, characterized in that the polyolefin resin of the composition in accordance to one of the claims 1 to 17 is selected from the group consisting of polyethylene, polypropylene, copolymer of ethylene-propylene and mixture thereof, while the film, cloth or protecting cloth comprises at least one layer essentially made of a polyolefin resin selected from the group consisting of polyethylene, polypropylene, copolymer of ethylene-propylene and mixture thereof.

24 25. Tube or cap, cap for protecting a needle of a syringe, the said tube or cap comprising at least one layer made of a composition in accordance to one of the claims 1 to 19.

25 24. Tube in accordance to claim 24, characterized in that it comprises at least a first and a second layers made of a composition in accordance to one of the claims 1 to 18 17, a first layer having a not cross-linked SIS elastomer content lower than the not cross-linked SIS elastomer of the second layer.

26 25. Bag made of a film according to claim 21 or 23.

27 26. Process for the manufacture of an article from a composition according to one of the claims 1 t 18, in which the said composition is mixed at a temperature

sufficient for the at least partial smelting of the not cross-linked SIS elastomer, and in which the ~~said~~ composition is thereafter ~~transformed~~ shaped in ~~the~~ said articles.

28 27. The process of claim 26, in which the said composition contains at least one dye or pigment having a melting point corresponding substantially to the melting point of the not cross-linked SIS elastomer, in which a control of the dye or pigment distribution in the transformed articles is carried out, and in which the mixing step is controlled so as to reach a substantially homogeneous distribution of the dye or pigment in a part of the composition just before ~~its transformation in the~~ the shaping of said article.

23 28. The process of claim 27, in which the said article is sterilized at a temperature of 121°C during at least 100 minutes and /or irradiated with a γ-irradiation of at least 20 KGray.

add A2 >